The Journal

of the

AMERICAN LEATHER CHEMISTS ASSOCIATION

VOLUME LXXI

1976

Published Monthly By

THE AMERICAN LEATHER CHEMISTS ASSOCIATION

EASTON PRINTING COMPANY, PRINTERS

EASTON, PA.

INDEX

TO

VOLUME LXXI, 1976

AUTHOR INDEX

(A) indicates abstract; (P) patent; (BR) book review; and (TN) technical note

ALDERMAN, M. L. *See* REDLICH, G. H.

ALEKSANDROV, A. A. Production of Hairside Chrome Upper Leather (A) .. 520

ALFORD, P. *See* KNAFLIC, F.

ALLAM, S. S. *See* HARENBERG, O.

ANDRIANOV, K. A., A. I. ANPILOGOVA, P. I. LEVENKO, and W. I. SIDOROV. New Applications of Organo-Silicon Compounds for Waterproofing Hide (A) 98

ANGELINETTI, A. R., N. A. LACOUR, and V. M. GONZALEZ. Retanning with Glutaraldehyde (A) 100

———, ———, and B. SANTOS. Retanning with Sulfited Quebracho and Mixtures of Quebracho and Syntan (A) 100

ANPILOGOVA, A. I. *See* ANDRIANOV, K. A.

ARONINA, J. N. *See* OSTROVSKAYA, L. A.

ARONINA, Y. H. *See* SADOVSKI, T.

———. *See* BYELOVA, I. V.

AVIOLI, L. V. *See* RUSSELL, J. E.

BABICH I. Y., and SHAPILSKAYA, A. Y. Tanning of Upper Leather with Chrome-Zirconium Compounds (A) 486

BABITCH, N. P., and A. N. MICHAYLOV. Influence of Tanning on the Volume, Surface, and Shrinkage Temperature of Hide (A) 50

BAILEY, D. G., W. J. HOPKINS, H. H. TAYLOR, E. M. FILACHIONE, and R. G. KOEPPEN. Preservation of Hides with Sulfite. III. Statistical Evaluation of Shoe Upper Leather Prepared in a Matched Side Study of Brine Cured and Sulfite-Acetic Acid Treated Cowhides 400

———. *See* FEAIRHELLER, S. H.

BALAKRISHNAN, M., K. R. V. THAMPURAN, D. GHOSH, and S. K. BARAT. Shrinkage Temperature — Layer-Wise Studies (A) 255

BALBEROVA, N. A., P. I. LEVENKO, and V. Z. VOLKOV. Diphase Liming of Raw Hide (A) 50

BANGARUSWAMY, S. *See* GANGI REDDY, G.
BANKOWSKI, E., and W. GALASINSKI. Collagen Biosynthesis (A) 52
BARAMBOIM, N. K. *See* OSTROVSKAYA, L. A.
BARAT, S. K. *See* BALAKRISHNAN, M.
BARRETT, A. J. *See* BURLEIGH, M. C.
BATTISTA, O. A. Cosmetic Compositions Containing Micro-Crystalline Collagen. A Water-Insoluble Ionizable, Partial Salt of Collagen (P) .. 184
BAYDANOFF, S. The Organization and Effects of Processing of Elastic Fibers of Lambskins and Calfskins 503
BERTHOLON, M. Effect of Currying and of Drying on Area Yield (A) 141
BIENKIEWICZ, K., and U. GRZEGORZEWSKA. Progress in Studies on Collagen Chemistry and Biosynthesis (A) 98
BITCOVER, E. H. See EVERETT, A. L.
BLASS, J., C. VERRIEST, A. LEAU, and M. WEISS. Monomeric Glutaraldehyde As an Effective Crosslinking Reagent for Proteins 121
BÖE, H. Chamois Leather-Like Materials Having Improved Water Absorbency and Abrasion Resistance (P) 529
BOSE, S. M. *See* PARTHASARATHY, N.
BOUCHET, G. Area Yield (A) 142
BRAVO, G. A. The Secrets of Dom Alexis of Piemount (A) 182
BRESLER, H. *See* HEIDEMANN, E.
BRIGGS, P. S. Process for Tanning with a Multivalent Metal and an Organic Compound (P) 353
BROWNELL, A. G., and A. VEIS. The Intracellular Location of the Glycosylation of Hydroxylysine of Collagen (A) 142
BURIANEK, L. Development of Leather Technique and Technology in Recent Years and Their Utilization in Building New Production Capacities in the Koželužne Nat. Corp., Bošany, Czechoslovakia (A) 566
BURLEIGH, M. C., A. J. BARRETT, and G. S. LAZARUS. Cathepsin B-1. A Lysosomal Enzyme That Degrades Native Collagen (A) 180
BUSEK, J. Wringer (P) 354
BYELOVA, I. V., Y. N. ARONINA, M. M. GORYATSHEVA, and I. G. SHIPHRIN. Effect of γ-Irradiation on Changes of Some Properties of Mink Skin (A) 98
BYKADOROVA, N. L. *See* SMIRNOV, V. I.

CASSENS, R. G. *See* MOWAFY, M.
CASTELNOVO, X. Effect of Retanning, Dyeing, and Fatliquoring on Area Yield (A) 141
CERVENY, V. *See* HORÁK, J.
CHANDRA BOSE, G. B., C. KOTESWARA RAO, and P. R. SUBRAMANIAN. Manufacture of Sole Leather Using Blend of Wattle Extract and

Tamarind Seed Husk (A) 254
CHERENKOVA, A. N. *See* IVANENKO, S. K.
CHIRITA, C., and A. CIOBANU. Studies on the Hydrolysis of Collagen (A) .. 138
CHURCH, R. L. *See* PARK, E.
CINTRON, C. Hydroxylysine Glycosides in the Collagen of Normal and Scarred Rabbit Corneas (A) 99
CIOBANU, A. *See* CHIRITA, C.
COHLY, M. A. Edible Collagen Casing Crosslinked by Bisulfite Addition (P) 358
CONKLIN, A. R. Leather (P) 184
COOPER, D. R. *See* EVERY, V.
———. *See* SHUTTLEWORTH, S. G.
COOPER, J. E., W. F. HAPPICH, E. F. MELLON, and J. NAGHSKI. Acclimatization of Activated Sludge to Lime-Sulfide Unhairing Effluents 6
CORTESE, B. Recovery of Chrome Salts in Tanneries (A) 182

DAVIS, N. R., and O. M. RISEN. Mature Collagen Crosslinks (A) 180
DAWSON, W. O. Method of Chrome-Retanning Leather (P) 524
DEASY, C. L., and C. SLOMSKI. Degradation of Collagen by the Perborate Cu^{+2} System 288
DEL PEZZO, L., G. DE SIMONE, and U. FIORE. Researches on the Reliability of the Flexibility Test (Continuous Repeated Folding) of Seasoned Skins (A) 183
———, G. UMMARINO, and A. RUSSO. Experiments of Electrolytic Purification of Tannery Effluents (A) 181
DERVILLE, M. Method for Manufacturing a Synthetic Leather Base (P) .. 190
DE SIMONE, G. *See* DEL PEZZO, L.
———. *See* SIMONCINI, A.
DIAS, A. C. Hide Resources in the World (A) 347
DIEBSCHLAG, W. The Stretch Behavior of Different Shoe Upper Materials, as Well as Their Maximum Pressure on the Foot During Walking (A) 351
———, MÜLLER-LIMMROTH, W., and MAUDERER, V. The Influence of Several Socks and Linings on the Microclimate in Shoes with Upper Material of Leather or Synthetic 293
DIHARCE, E. V. A Tanner Looks at Outside Bluing 195
———. Practical Aspects of Fatliquoring 259
DORRINGTON, L. S. *See* EVERY, V.
———. *See* SHUTTLEWORTH, S. G.
DORSTEWITZ, R., and E. HEIDEMANN. New Developments in the Darmstadt Continuous Process (A) 445
DOYLE, B. B., D. W. L. HUKINS, D. J. S. HULMES, A. MILLER, C. J.

RATTEW, AND J. WOODHEAD-GALLOWAY. Origins and Implications of the D Stagger in Collagen (A) 180
DUBINOVSKI, M. Z. *See* SUNDUKOV, A. N.
DUCHON, Y. B., and G. J. OPTYKER. Manufacturing of Fur Articles (P) 528
DUMNOV, V. S. *See* KOMISSAROV, I. A.

EITEL, K. Notes on the Absorption of Dyestuffs in Leather Dyeing (A) 442
———. The Science of Tanning. II. A Bridge from Theory to Practice (A) 442
ENDISCH, O. *See* HERFELD, H.
ERDMANN, H., F. MILLER, and A. ZISSEL. Tanning Agents (P) 188
EVERETT, A. L., W. E. PALM, E. H. BITCOVER, H. J. SCHERR, and V. G. METZGER. Prediction of Leather Strength From Needle Penetrometer Measurements on Wet Blue Stock After Splitting 448
———. *See* HANNIGAN, M. V.
EVERY, V., L. S. DORRINGTON, D. E. RAWLINGS, D. R. WOODS, D. R. COOPER, and S. G. SHUTTLEWORTH. Recent Developments in Tannery Effluent Disposal 276
———. *See* SHUTTLEWORTH, S. G.

FEAIRHELLER, S. H., A. H. KORN, E. H. HARRIS, JR., E. M. FILACHIONE, and M. M. TAYLOR. Graft Polymerization of Vinyl Monomers Onto Chrome-Tanned Hides and Skins (P) 186
———, M. M. TAYLOR, D. G. BAILEY, and W. W. WINDUS. Further Evidence in Support of the Elimination Reaction as the Mechanism of Alkaline Unhairing 360
FEKETE, K. The Use of Enzymes of Bacterial Origin for Bating Skins (A) 397
FESSLER, J. H. *See* FESSLER, L. I.
FESSLER, L. I., and J. H. FESSLER. Protein Assembly of Procollagen and Effects of Hydroxylation (A) 99
FILACHIONE, E. M. *See* BAILEY, D. G.
———. *See* FEAIRHELLER, S. H.
FINIELS, F. Machine for Operating on an Article of Leather or Skin (P) .. 356
FIORE, U. *See* DEL PEZZO, L.
FUCHS, K. Investigations on the Pigment Deposits in the Skin of Various Reptiles (A) 397
FUCHS, P., and M. RAK. Treatment of the Effluents of Chrome Leather Tanning (A) 566

GALAS, E. *See* PILAWSKI, S.
GALASINSKI, W. *See* BANKOWSKI, E.

Ganesan, A. *See* Venkateswara Rao, M.
Gangi Reddy, G., M. P. Swamy, and S. Bangaruswamy. Sampling Position of Vegetable Tanned Indian Buffalo Hides 465
Gauglhofer, J. Investigations of the Influence of Chromium (III) Compounds on Biological Waste Water Treatment (A) 444
Gavrilova, E. D. *See* Godnyeva, M. M.
Ghosh, D. *See* Balakrishnan, M.
———. *See* Thampuran, K. R. V.
Ghosh, J. J. *See* Sarkar, S. K.
Godnyeva, M. M., D. L. Motov, R. F. Ohrimyenk, E D. Gavrilova, and A. I. Metelkin. Properties of Solutions of Titanium and Zirconium Tanning Agents (A) 97
Goland, N. I. *See* Styopkin, A. P.
Golovteeva, A. A. *See* Shurbadzhi, M. T.
Gonzalez, V. M. *See* Angelinetti, A. R.
Goryatsheva, M. M. *See* Byelova, I. V.
Gould, F. E., and S. H. Ronel. Artificial Skin (P) 187
Grand, M. E. *See* Harwood, R.
Gregorian, R. S., and H. R. Hoernle. Method of Making a Leather-Like Texturized Laminate (P) 190
Grzegorzewska, U. *See* Bienkiewicz, K.
Guy, R., and A. G. Marriott. The Choice of Experimental Error in the Determination of Some Tensile Parameters of Leather (A) 140
———, and ———. The Measurement of Elongation at Break in Leather Testing (A) 140

Halámek, C. *See* Horák, J.
Halliwell, R. W. Embossing Leather (P) 531
Hannigan, M. V., A. L. Everett, I. H. Roberts, and J. Naghski. Microscopic Study of Leather Defects. IV. Histological and Other Physical Changes in Sheepskin Due to Ked-Induced Cockle 411
Hanson, G. W. A Practical Approach to the Make-Up and Manufacture of Domestic Fatliquors 262
Happich, W. F. *See* Cooper, J. E.
Harenberg, O., E. Heidemann, and S. S. Allam. Chrome Recovery (A) 49
Harris, E. H., Jr. *See* Feairheller, S. H.
Harwood, R., M. E. Grand, and D. S. Jackson. Characterization of Subcellular Fractions from Embryonic Chick Fibroblasts and the Intracellular Localization of Protocollagen Prolyl and Protocollagen Lysyl Hydroxylases (A) 98
Hazaka, Y. *See* Umezawa, F.
Heidemann, E., and H. Bresler. The Behavior of Glutaraldehyde in

Aqueous Solutions and on the Leather Fiber (A) 349
———, and R. Moldehn. Determination of Fatty Alkyl Sulfates in Leather (A) 350
———, and C. P. Wolframm. The Behavior of the Inner Hair Root Sheath of Cattle Hide Under the Influence of Liming Chemicals and the Role Which Is Played by the Soluble Constituents of the Hair Root Sheath (A) 48
———. *See* Dorstewitz, R.
———. *See* Harenberg, O.
Herfeld, H., and O. Endisch. The Possibility of Improving the Heat Stability of Chrome Leather for Workers Protective Articles (ASA Leather) (A) 395
———, and J. Muser. Investigations on Working Up Chrome Splits (A) 443
———, and K. Schmidt. Investigations on the Possibility of Conducting Wet Finishing by the Flow-Through Process (A) 50
———, and B. Schubert. Investigations on the Swelling and Plumping of Animal Skin in Acid Solutions (A) 445
———. *See* Schubert, B.
Higuchi, A. *See* Okazaki, K.
Hikota, T. *See* Okazai, K.
Horák, J., C. Halámek, J. Ludvík, and V. Cerveny. Complex Evaluation of Tannery Wastes and Protection of the Living Environment (A) 565
Hörig, S. *See* Knaflic, E.
Hoernle, H. R. *See* Gregorian, R. S.
Holloway, D. F. Processing at the Source 201
Hollstein, M. The Fixation of Fats on Leather (A) 443
Hopkins, W. J. *See* Bailey, D. G.
Hukins, D. W. L. *See* Doyle, B. B.
Hulmes, D. J. S. *See* Doyle, B. B.
Hutton, T. W. *See* Trentiss, W. C.

Ichimura, A. *See* Okazaki, K.
Igarashi, S. *See* Sakai, T.
Imaeda, N. *See* Okazaki, K.
Ioo, J. *See* Platon, F.
Ivanenko, S. K., M. N. Krasukhin, S. A. Kuraitis, and A. N. Cherenkova. Dehydration of Tannin Extracts by Spray Drying (A) 486
Ivanov, V. V., N. V. Ratnokova, and U. A. Vasin. Changes with Temperature of the Water Adsorbate Structure in Collagen (A) 52

Jackson, D. S. *See* Harwood, R.
Jany, J. Charcoal from Tanned Leather Offals (TN) 518

JAQUET, E. General Ideas on Surface Yield and Methods of Measurement (A) 140
JAYARAMAN, K. S. *See* KRISHNAMURTHI, V. S.
JONES, H. W. *See* WHITMORE, R. A.
JONES, R. N. Cowhide Garment Leather 209
JULLIEN, I. Effect of the Conditioning of Raw Hides on the Surface Yield (A) 141
JUVA, B. *See* PEKTOR, V.

KATO, R. *See* YANAGIDA, K.
KAWAMURA, A. *See* WADA, K.
KAWANISHI, Y. *See* MECHANIC, G. L.
KESSLER, A. Device for Wet-Processing Leather and Hides (P) 528
KIERAS, F. J. The Linkage Region of Cartilage Keratan Sulfate to Protein (A) 99
KLANFER, K. Contribution to the Identification of Salt Stippen (A) 49
———. Contribution to the Identification of Salt Stippen (A) 139
KNAFLIC, E., and S. HÖRIG. The Manufacture of Fancy Leather from Pigskins (A) 352
———, ———, and P. ALFORD. Production of Leather from Pigskins 215
KOEPPEN, R. G. *See* BAILEY, D. G.
KOGAN, G. L., and V. I. MAZUROV. Biosynthesis of Proteins in Homologous Cell-Free System in the Presence of RNAs Obtained from Free and Membrane-Bound Polysomes of Chick Embryos (A) 51
KOMISSAROV, A. I. *See* VLINNIKOV, W. I.
KOMISSAROV, I. A., V. S. DUMNOV, and Z. G. ZHARKOVA. Influence of the Type of Neutralizing Agent on the Change of Volume of Hide During Drying (A) 51
KOOPMAN, R. C. Deliming with the Aid of Magnesium Sulfate (A) 442
KORN, A. H. *See* FEAIRHELLER, S. H.
KOTESWARA RAO, C. Vegetable Tanstuffs of Tamil Nadu: Their Exploitation and Commercial Utilization (A) 347
KOTESWARA RAO, C. *See* CHANDRA BOSE, G. B.
KRASUKHIN, M. N. *See* IVANENKO, S. K.
KRISHNAMURTHI, V. S., and K. PADMINI. Purification of Used Salt for Curing (TN) 36
———, ———, T. S. RANGANATHAN, and K. S. JAYARAMAN. Curing with Used Salt After Purification (TN) 41
KUBO, M. *See* OKAZAKI, K.
KUBOKI, Y. *See* MECHANIC, G. L.
KULABUHOVA, T. S. *See* VOLKOV, Y. M.

KURAITIS, S. A. *See* IVANENKO, S. K.
KUTIANIN, G. I. *See* OSTASHENKO, L. S.

LACOUR, N. A. *See* ANGELINETTI, A. R.
LA NOCE, T. A Discussion on the Analytical Data of BOD, COD, and TOC in the Evaluation of Pollution of Waters (A) 181
LAPIDUS, H. Deodorizer Sheet Material (P) 186
LARSEN, R. S. Tanning Composition and Process (P) 188
LARSSON, B. E., and S. LE SOTA. Emulsion Copolymers of Acrolein and Their Use in Treating Leather (P) 526
LAVROVA, L. F. *See* POKHVARGER, O. D.
LAZAREV, Y. A. *See* SUKHOMUDRENKO, A. G.
LAZARUS, G. S. *See* BURLEIGH, M. C.
LEAU, A. *See* BLASS, J.
LESKA, A. New Machines for Leather Production in 1974 (A) 565
LE SOTA, S. *See* LARSSON, B. E.
LEVENKO, P. I. *See* ANDRIANOV, K. A.
———. *See* BALBEROVA, N. A.
LEVY, J. *See* ROQUE, M.
LEWIS, S. N. *See* PRENTISS, W. C.
LOKANADAM, B., and V. V. SUBRAMANIAN. Shellac in the Leather Industry (A) 348
LUCK, W. The Production of Soft Side Leathers (A) 253
LUDVÍK, J. *See* HORÁK, J.

MAEDA, S., M. OZUTSUMI, I. NIIMURA, and H. OKAZAKI. Process for Preparing Colored Synthetic Leather (P) 356
MAIO, A. *See* SIMONCINI, A.
MAIRE, M. S. Energy Parameters of the Tanning Industry 82
———. Engineering Aspects of Solvent Hide Processing 488
MAKARSKI, B. *See* WOJCIK, S.
MANZO, G. *See* SIMONCINI, A.
MARRIOTT, A. G. *See* GUY, R.
MARTEL, G. E. Snythetic Suede (P) 355
MARTINELLI, B. Preparation of Sheepskins with Wool for Garments and for Other Uses (A) 138
MASIULANIS, J. *See* WOJCIK, S.
MASUBUCHI, Y. *See* OKAZAKI, K.
MAZUROV, V. I. *See* KOGAN, G. L.
MECHANIC, G., Y. KUBOKI, H. SHIMOKAWA, K. NAKAMOTO, S. SASAKI, and Y. KAWANISHI. Collagen Crosslinks: Direct Quantitative Determination of Stable Structural Crosslinks in Bone and Dentin Collagens (A) 180

———. *See* Russell, J. E.
Mellon, E. F. *See* Cooper, J. E.
Metelkin, A. I. *See* Godnyeva, M. M.
Metzger, V. G. *See* Everett, A. L.
Michaylov, A. N. *See* Babitch, N. P.
Miglatshenko, A. F. On the Units of Water Vapor Permeability (A) 97
Mihaita, I. *See* Platon, F.
Mikhailov, A. N. *See* Nesterova, G. A.
Miller, A. *See* Doyle, B. B.
Miller, E. J. Characterization of Notochord Collagen as a Cartilage-Type Collagen (A) 180
Miller, F. *See* Erdmann, H.
Mingay Treharne, T. J., and D. H. Tuck. Process for Obtaining Corium From Bovine Hide (P) 187
———. *See* Tuck, D. H.
Minklei, A. O., and J. A. Peterson. Thermal Shrinkage Resistance of Leather (P) 353
Moldehn, R. *See* Heidemann, E.
Monsheimer, R., and E. Pfleiderer. Rationalization Possibilities by Means of Enzymatic Tannery Auxiliary Materials (A) 446
Motov, D. L. *See* Godnyeva, M. M.
Mowafy, M., and R. G. Cassens. Hair Growth in the Domestic Pig — Histological Aspects 64
———, and ———. Hair Growth in the Domestic Pig — Quantitative Aspects 71
Müller, J. Safety of Work in Tannery Drums (A) 521
Müller-Limmroth, W. *See* Diebschlag, W.
Mullen, T. C., and R. H. Ricketts. Small-Scale Leather Dyeing (A) .. 253
Mukherjee, D. Some Thoughts About the Production of Chrome-Tanned Upper Leathers for the Export Trade (A) 255
Muser, J. *See* Herfeld, H.

Naghski, J. *See* Cooper, J. E.
———. *See* Hannigan, M. V.
Nakamoto, K. *See* Mechanic, G. L.
Nesterova, G. A., and A. N. Mikhailov. Quantitative Determination of Bond Strength Between Hair and Skin (A) 520
Nichols, D. S. *See* Strahl, W. A.
Niimura, I. *See* Maeda, S.
Noll, K. *See* Zorn, B.

Oda, T. *See* Sakai, T.
Oertel, H. *See* Zorn, B.
Ohrimyenk, R. F. *See* Godnyeva, M. M.
Okamoto, M. *See* Okazaki, K.
Okamura, H., and K. Shirai. Recovery of Chromium from Shavings by Wet Air Oxidation (TN) 173
Okazaki, H. *See* Maeda, S.
Okazaki, K., A. Higuchi, and N. Imaeda. Artificial Leather (P) 185
———, ———, and ———. Artificial Leather and Method of Preparation (P) 530
———, ———, and ———. Synthetic Leather and Method of Preparing the Same (P) 354
———, K. Yagi, A. Ichimura, and Y. Masubuchi. Synthetic Leather Combination of Needle-Punched Fabric and Polyetherester Polyurethane (P) 527
———, ———, M. Okamoto, K. Watanabe, T. Hikota, and M. Kubo. Process for Crumpling Synthetic Suede (P) 526
Optyker, G. J. *See* Duchon, Y. B.
Orus, R. Effect of the Beamhouse on the Surface Yield (A) 141
Ostashenko, L. S., and G. I. Kutianin. Thermographical Investigations of the Moisture Contents of Untanned Collagen and Hide (A) 96
Ostrovskaya, L. A., J. N. Aronina, and N. K. Baramboim. Intensification of the Dyeing Process of Sheep Pelts by Dispersion Coloring Agents (A) 50
Ozutumi, M. *See* Maeda, S.

Padmini, K. *See* Krishnamurthi, V. S.
Palm, W. E. *See* Everett, A. L.
Panzer, S. General Remarks on Softie Side Leathers 205
Park, E., M. L. Tanzer, and R. L. Church. Procollagen Synthesis in Cell Culture: Nascent Chain Population Consistent with Polycistronic mRNA (A) 142
Parthasarathy, K. *See* Selvarangan, R.
Parthasarathy, N., and S. M. Bose. Isolation and Characterization of a Saline-Extractable Noncollagenous Glycoprotein from Albino Rat Skins 370
Paul, B. C. Some Thoughts on Transfer of Technology in the Leather Industry (A) 349
Pektor, V., P. Smykal, and B. Juva. Development of the Technology for Preparation of High Quality Box Calf from Skins of Artificially Nourished Calves (A) 138

PETERSON, J. A. *See* MINKLEI, A. O.
PFLEIDERER, E. *See* MONSHEIMER, R.
PIEPER, F. Synthetic Fatliquoring Agents (A) 266
PIERCE, R., and T. C. THORSTENSEN. The Recycling of Chrome Tanning Liquors 161
PIETRZKOWSKI, W. Ageing of the Collagen of Skins During Their Preservation and Storage (A) 398
PILAWSKI, S., and E. GALAS. Enzymatic Collagen Damage of Pigskins During Storage and Beamhouse Work (A) 444
PIRICH, E. P. *See* SAGOSCHEN, J. A.
PITOWSKI, H. J. *See* SEIBERT, G.
PLAPPER, J. Fatliquoring Soft Leathers with Synthetic Oils (A) 100
PLATON, F., I. MIHAITA, J. Ioo. Physicochemical Studies on the Characteristics of Basic Chrome Sulfate Solutions (A) 100
PLECHAČ, B. Rationalization of Operations in the Beamhouse (A) 566
POKHVARGER, O. D., and L. F. LAVROVA. Determination of Mucopolysaccharides in Fur Skins (A) 521
PRENTISS, W. C. Practical Consideration for the Complete Processing of Pigskin 54
———, T. W. HUTTON, and S. N. LEWIS. Cerium(IV) Grafting of Acrylic Monomers to Collagen 111
PROSECKY, J., and L. SRDA. Apparatus for Continuously Chamoising Halves (P) 189
PROTASOVA, M. A., and I. P. STRAKHOV. Use of Dicyanamide Resins in Place of Pickle (A) 486
PUTCHKOVA, N. V., and I. C. SHESTAKOVA. Changes of Skin Tissue of Sheep Pelt During Enzyme Treatment (A) 51

RABANUS, K. Letting-Out of Hides and Similar Materials (P) 189
RAK, M. *See* FUCHS, P.
RAMONDETTI, A. The Methods of Nappa and Classic Finishing of Small Size Skins (A) 182
RANGANATHAN, T. S. *See* KRISHNAMURTHI, V. S.
RATNOKOVA, N. V. *See* IVANOV, V. V.
RATTEW, C. J. *See* DOYLE, B. B.
RAWLINGS, D. E. *See* EVERY, V.
RAZDAN, R. K. *See* WALI, B. K.
REDLICH, G. H., and M. L. ALDERMAN. Bleaching of Aldehyde-Tanned Leather with Sodium Borohydride (P) 525
REED, R. Ancient Skins, Parchments and Leather (BR) 522
REPETTO, S. Installation for the Defleshing of Skins (P) 357
RETZSCH, C. E. An Aqueous System for Production of Non-Rewet Dry Cleanable Leather 102

RICKETTS, R. H. *See* MULLEN, T. C.
RIEGER, W. "Compact" Retanning (A) 446
RIGBY, B. J., and M. S. ROBINSON. Thermal Transitions in Collagen and the Preferred Temperature Range of Animals (A) 142
RISEN, O. M. *See* DAVIS, N. R.
RITTER, J. J. Soft Leathers in Fulton County 211
ROBERTS, I. H. *See* HANNIGAN, M. V.
ROBINSON, M. S. *See* RIGBY, B. J.
RONEL, S. H. *See* GOULD, F. E.
ROQUE, M., and J. LEVY. Resins Cross-Linked in the Cold in the Base Layers of the Finish (A) 140
ROUBAL, J. The Tannery From the Point of View of the Industrial Physician (A) 138
RUDAKOV, E. V. *See* VOLKOV, Y. M.
RUSSELL, J. E., L. V. AVIOLI, and G. MECHANIC. The Nature of the Collagen Crosslinks in Bone in the Chronic Uraemic State (A) 98
RUSSO, A. *See* DEL PEZZO, L.

SADOVSKI, T., and Y. H. ARONINA. Influence of the Coloring Process Using Reactive Dyes and Waterproofing Treatment on the Properties of Sheep Pelt (A) 96
SAGOSCHEN, J .A., and E. P. PIRICH. Sweetened Chestnut Extract for Retanning Chrome Leather (A) 182
SAKAI, T., T. ODA, and S. IGARASHI. Demonstration of Collagenase Activity in Rat Liver Homogenate (A) 99
SANKIN, L. B. *See* SMIRNOV, V. I.
SANTHANAM, P. S. Studies on the Solvent Extracts and Purified Extracts of Babul (Acacia Aribica) (A) 396
———. *See* THAMPURAN, K. V. R.
SANTOS, B. *See* ANGELINETTI, A. R.
SARKAR, S. K., and J. J. GHOSH. A Study on the Red Discoloration of Wet Chrome Leather (A) 348
SASAKI, S. *See* MECHANIC, G. L.
SAVYELEV, A. I. *See* VLINNIKOV, W. I.
SCHERR, H. J. *See* EVERETT, A. L.
SCHMIDT, K. *See* HERFELD, H.
SCHUBERT, B., and H. HERFELD. Investigations on Reducing the Chromium Compounds in Tannery Waste Waters (A) 351
———. *See* HERFELD, H.
SCHUBERT, R. Investigations on the Water Vapor Storage Ability of Leather and Other Shoe Materials (A) 350

SEIBERT, G., and H. J. PITOWSKI. Process for Producing a Soft, Drapable Artificial Leather (P) 187
SELIGSBERGER, L. Ancient Skins, Parchments and Leather (BR) 522
SELVARANGAN, R., and K. PARTHASARATHY. Simplified Technology for Finishing of E. I. Skins (A) 396
SHAPILSKAYA, A. Y. *See* BABICH, I. Y.
SHARP, B. Basic Principles of Vacuum Drying with Respect to Conditioning of Leather (A) 346
SHESTAKOVA, I. C. *See* PUTCHKOVA, N. V.
SHIMOKAWA, H. *See* MECHANIC, G. L.
SHIPHRIN, I. G. *See* BYELOVA, I. V.
SHIRAI, K. *See* OKAMURA, H.
SHIVAS, S. A. J. A Study of Tannery Pulped Hair Sols 144
SHURBADZHI, M. T., A. A. GOLOVTEEVA, and I. P. STRAKHOV. Effect of Dicyanamide Resins on the Characteristics of Sole Leather (A) 520
SHUTTLEWORTH, S. G., L. S. DORRINGTON, D. R. COOPER, G. S. TUTT, and V. EVERY. Pilot Plant Aeration of Tannery Beamhouse Liquors (A) 140
———, and G. J. WARD. The Liritan Minimum Effluent Vegetable Tanning System 336
———. *See* EVERY, V.
———. *See* WARD, G. J.
SIDOROV, W. I. *See* ANDRIANOV, K. A.
SIMONCINI, A., and G. DE SIMONE. Essential Physical Tests for the Practical Evaluation of Upper Leathers (A) 181
———, and G. MANZO. The Influence of Some Bicarboxylic Acids and of Formaldehyde on the Fixation of Chromium to the Protein (A) 182
———, M. TOMASELLI, and A. MAIO. Detection of Tricresyl Phosphate in Adhesives and Other Finishing Products (A) 182
SLABBERT, N. P. *See* WARD, G. J.
SLOMSKI, C. *See* DEASY, C. L.
SMALL, D. R. Don't Forget the Splits 197
SMIRNOV, V. I., L. B. SANKIN, I. P. STRAKHOV, and N. L. BYKADOROVA. Tanning Effect of Ureaformaldehyde Resins (A) 520
SMIRNOV, N. I. *See* SUKHOMUDRENKO, A. G.
SMYKAL, P. *See* PEKTOR, V.
SOLOVYOVA, N. I. *See* SUKHOMUDRENKO, A. G.
SRDA, L. *See* PROSECKY, J.
STIRTZ, T. Contribution to the Electronmicroscopic Structure of Cattle Hide Epidermis (A) 446

STRACK, W. The Dangers of Hydrogen Sulfide in Modern Leather Manufacturing Technology (A) 486
STRAHL, W. A., and D. S. NICHOLS. Simulated Leather Fabric (P) 184
STRAKHOV, I. P. *See* PROTASOVA, M. A.
———. *See* SHURBADZHI, M. T.
———. *See* SMIRNOV, V. I.
STYOPKIN, A. P., and N. I. GOLAND. Dyeing of Pelts Brown Using Vat Dyestuffs (A) 97
SUBRAMANIAN, P. R. *See* CHANDRA BOSE, G. B.
SUBRAMANIAN, V. V. *See* LOKANADAM, B.
SŰDEMIR, S., and J. J. TANCOUS. Wet-Dry Differential Studies of Tensile Load Values of Side Upper Leather 534
SUKHOMUDRENKO, A. G., N. I. SOLOVYOVA, N. I. SMIRNOV, and Y. A. LAZAREV. Models of the Quaternary Structure of Collagenase (A) .. 52
SUNDUKOV, A. N., and M. Z. DUBINOVSKI. Rheological Properties of Acrylic Stabilizers of Surface Coloring Agents of Hide (A) 96
SUZUKI, T. *See* YANAGIDA, K.
SWAMY, M. P. *See* GANGI REDDY, G.

TAKAHASI, T., K. YAMAZAKI, and H. TANAKA. Process of Making Leather-Like Sheet Material (P) 353
TAKANO, Y. *See* YANAGIDA, K.
TANAKA, H. *See* TAKAHASI, T.
TANCOUS, J. J. *See* SŰDEMIR, S.
TANZER, M. L. *See* PARK, E.
TAYLOR, H. H. *See* BAILEY, D. G.
TAYLOR, M. M. *See* FEAIRHELLER, S. H.
TEBBETTS, H. E., JR. Method of Manufacturing a Leather Covered Football (P) 524
THAMPURAN, K. R. V., and D. GHOSH. Study on the Viscosity of Certain Indigenous Vegetable Tannin Infusions (A) 346
———, P. S. SANTHANAM, and D. GHOSH. Vegetable Tannins — Their Relevance to the Leather Industry Today (A) 255
———. *See* BALAKRISHNAN, M.
THORSTENSEN, T. C. A Case Study of Effluent Pretreatment for a Side Leather Tannery 152
———. *See* PIERCE, R.
TOMASELLI, M. *See* SIMONCINI, A.
TRAUBEL, H. *See* ZORN, B.
TUTT, G. S. *See* SHUTTLEWORTH, S. G.

UEHARA, K. *See* WADA, K.
UMEZAWA, F., and Y. HAZAKA. Method of Processing Animal Hair, Fur and Woolen Textile (P) 185
UMMARINO, G. *See* DEL PEZZO, L.

VALLERO, C. Drums vs. Other Equipment for Beamhouse, Tanning, and Dyeing (A) 99
VAN HULTEN, F. J. *See* VAN VLIMMEREN, P. J.
VAN VLIMMEREN, P. J. The 1976 John Arthur Wilson Memorial Lecture — New Beamhouse Development to Simplify Tannery Waste Water Management 318
———, and F. J. VAN HULTEN. The Influence of Conditioning on the Moisture Content and Physical Properties of Upper Leather (A) 395
VASIN, U. A. *See* IVANOV, V. V.
VEIS, A. *See* BROWNELL, A. G.
VENKATACHALAM, P. S. The Changing Face of Indian Leather Technology (A) 254
VENKATESWARA RAO, M., T. VIJAYARAMAYYA, and A. GANESAN. Chrome Vegetable Welting Leather (A) 396
VERRIEST, C. *See* BLASS, J.
VIJAYARAMAYYA, T. *See* VENKATESWARA RAO, M.
VLINNIKOV, W. I., A. I. KOMISSAROV, and A. I. SAVYELEV. On the Kinetics of Drying of Chrome-Tanned Hide After Staking (A) 50
VOLKOV, V. Z. *See* BALBEROVA, N. A.
VOLKOV, Y. M., T. S. KULABUHOVA, and E. V. RUDAKOV. Determination of the Amino Nitrogen in Proteins After Hydrolysis (A) 51

WADA, K., K. UEHARA, and A. KAWAMURA. Changes in the Flora of Microorganisms and in Hide Substance of Calfskin During the Development of Putrefaction (A) 139
———, ———, and ———. Development and Growth of Microorganisms on Calfskin During Storage and Alterations of the Skin Substance (A) 397
WAHL, L. M., and WAHL, S. M. Collagenase Production by Lymphokine-Activated Macrophages (A) 142
WAHL, S. M. *See* WAHL, L. M.
WALI, B., and R. K. RAZDAN. Kail Bark (Pinus Wallichiana) as a Tanning Material (A) 256
———, and ———. The Bark from Himalayan Spruce (Picea Smithiana) (A) 254
WARD, G. J., N. P. SLABBERT, and S. G. SHUTTLEWORTH. Recent Developments in Tannery Process Modification for Reducing Liquid and Solid Wastes 551

———. *See* SHUTTLEWORTH, S. G.
WATANABE, K. *See* OKAZAKI, K.
WEBER, W. New Developments in Testing the Processing and Service Properties of Finishes (A) 442
WEISS, M. *See* BLASS, J.
WHITMORE, R. A., and H. W. JONES. Collagen Dispersions (P) 188
WINDUS, W. W. *See* FEAIRHELLER, S. H.
WOJCIK, S., B. MAKARSKI, and J. MASIULANIS. Application of α-Aminobutyric Acid as Inner Indicator for Measurements of Amino Acids in Protein Hydrolysates by the Electrochromatographic Method (A) 96
WOLFRAMM, C. P. *See* HEIDEMANN, E.
WOODHEAD-GALLOWAY, J. *See* DOYLE, B. B.
WOODS, D. R. *See* EVERY, V.

YAGI, K. *See* OKAZAKI, K.
YAMAZAKI, K. *See* TAKAHASI, T.
YANAGIDA, K., R. KATO, T. SUZUKI, and Y. TAKANO. Method of Producing Synthetic Leathers (P) 186

ZEMLIN, J. C. Process for Forming a Flexible Polyurethane Coating (P) .. 525
ZHARKOVA, Z. G. *See* KOMISSAROV, I. A.
ZISSEL, A. The Influence of Modern Liming and Tanning Processes on the Waste Water Problem (A) 443
———. *See* ERDMANN, H.
ZORN, B., K. NOLL, H. OERTEL, and H. TRAUBEL. Process for the Production of Polyurethane Coatings (P) 529

SUBJECT INDEX

Acclimatization of activated sludge 6
Acid plumping 445
Acrylic monomers, grafting of to collagen 111
Activated sludge 6
Adhesives, detection of tricresyl phosphate in 182
ALCA
  Auditing Committee Report 434
  Audit Report 247
  Business Meeting Minutes 478

Call for Papers for 1976 Annual Meeting 31
Call for Papers for 1977 Annual Meeting 564
Candidates for the 1976 Election 95
Council Meeting Minutes 27, 239, 428
Directory Changes 135, 436, 516
Highlights of the Seventy-Second Annual Meeting 380
John Arthur Wilson Memorial Lecture Announcement 135
Minutes of Meeting of ALCA-ASTM Joint Committee on Leather 32, 311
Mutual Membership Dues Notice 477, 516
Prize Paper Announcement 237, 315
Program for 1976 Annual Meeting 227
Proposed Change in By-Laws 172
Report of the Hide Powder Committee 436
Report of Fifteenth Congress of the International Union of Leather Technologists and Chemists Societies 393
Reprint Notice 427, 476, 514, 563
Status of the Association 434
ALFORD, PETER, Biography 224
Amino nitrogen, determination of 51
Analysis for fatty alkyl sulfates 350
Apparatus 565
drums 99, 530
for continuously chamoising halves 189
for defleshing 191, 357
for letting-out of hides 189
for operating on an article of leather 356
for wet-processing 528
wringer 354
Automation 237

Beamhouse 318, 566
effect of on area yield 141
BAILEY, D. G., Biography 378, 425
BANGARUSWAMY, S., Biography 475
Bating 446
with bacterial enzymes 397
BAYDANOFF, STEFAN, Biography 513
BERG, RAYMOND N., Obituary 516
BITCOVER, E., Biography 475
BLASS, JUDITH, Biography 133

Blue stock 195, 448
BLUMBERG, HANS, Obituary 311
BOSE, S. M., Biography 378
Buffalo hides 465

Calfskins, elastic fibers of 503
CASSENS, R. G., Biography 93
Cathepsin 180
Charcoal from tannery offals 518
Chrome
influence of dicarboxylic acids and formaldehyde on fixation of 183
recovery of 49, 173, 182
Chrome liquors, recycling of 161
Chrome shavings, treatment of to remove chrome 173
Chrome splits 443
Chrome sulfate solutions, properties of 100
Chrome-tanning solution 531
Cockle 411
Collagen
ageing of during curing and storage 398
biosynthesis of 52, 98, 99, 142
chemistry of 98
cross-linking of by bisulfite 358
crosslinks of 98, 180
crosslinks of mature 180
damage of during storage and beamhouse work 444
degradation of by perborate/copper 288
determination of amino acids in 96
dispersions of 188
edible casing from 358
grafting of acrylic monomers to 111
hydrolysis of 138
hydroxylysine glycosides in 99
location of carbohydrates of 142
moisture content of 96
notochord 180
structure of 180
synthesis of in a cell-free system 51
thermal transitions in 142
water adsorbate structure of 52
Collagenase 99, 142, 180
quaternary structure of 52

Computer programming 237
Cooper, J. E., Biography 25
Cosmetics containing collagen 184
Curing
ageing of collagen during 398
growth of microorganisms during 397
purification of used salt for 36
with sulfite 400
with used salt after purification 41

Darmstadt continuous process 445
Deasy, C. L., Biography 307
Deliming with magnesium sulfate 442
Dicyanamide resins, effect of on leather 520, 565
Diebschlag, W., Biography 307
Diharce, Eduardo V., Biography 224, 307
Dom Alexis of Piemount 182
Drying, kinetics of after staking 51
Dyeing 253
of pelts with vat dyes 97
of sheep pelts by dispersion coloring agents 50
Dyes
absorption of 442
reactive 96

Effluents. *See* Waste water.
Elastic fibers 503
Electrochromatography of amino acids 96
Elimination reaction 360
Energy parameters of the tanning industry 82
Engineering aspects of solvent processing 488
Enzyme treatment of sheepskins 51
Enzyme unhairing 446
Equipment. *See* Apparatus.
Everett, A. L., Biography 425, 475

Fatliquoring 258, 259, 262, 266
with synthetic oils 100
Fatliquors
domestic 262
fixing of on leather 443
synthetic 266

FEAIRHELLER, S. H., Biography 378
FILACHIONE, EDWARD M., Biography 425
Finishing of E. I. skins 396
Finishes
acrolein copolymers 526
acrylic stabilizers for 96
application of by a flow-through process 50
for softening 192
processing and properties of 442
rheological properties of 96
shellac 348
tricresyl phosphate in 182
with cross-linked resins 140
Flexibility test 183
FOLGER, KENNETH W., Biography 224
Football, manufacture of 524
Fur articles 528

GANGI REDDY, G., Biography 475
GLOTZBECKER, GERALD R., Obituary 515
Glutaraldehyde as a crosslinking agent 121
Glycoprotein from rat skin 370
Glycoproteins 99
Grafting of acrylic monomers to collagen 111
Graft polymerization 186, 236
Graft poly-retan process 235

Hair
bond strength of to skin 520
effect of liming chemicals on 48
growth of in the domestic pig 64, 71
method of processing a textile containing 185
Hair-pulp sols 144
HANNIGAN, MARY V., Biography 425
HANSON, GARY W., Biography 307
HAPPICH, W. F., Biography 25
HART, CHARLES A,. Obituary 428
Health problems in tanning 138
Hides
acid plumping of 445
ancient 522
blue stock 195

bond strength between hair and skin of 520
changes in during putrefaction 139
determination of mucopolysaccharides in 521
effect of neutralizing agent on volume of 51
elastic fibers of 503
electronmicroscopic structure of 446
fresh 201
glycoprotein in 370
grain layer thickness and total thickness of 235
microorganisms in 139
moisture content of 96
obtaining of corium from 187
preparation of a meat product from 188
preservation of with sulfite 233, 234, 400
processing of at the source 201
processing of by use of solvent 233
production of worldwide 347
salt-soluble glycoprotein from 370
sampling position of 465
solvent processing of 488
splits 197
Histology of pigskin 64, 71
Holloway, Donald F., Biography 224
Hopkins, William J., Biography 425
Hutton, T. W., Biography 133
Hydrogen sulfide 486

Indian leather technology 254
International Union of Leather Technologists and Chemists Societies 484

Jany, J., Biography 513
Jayaraman, K. S., Biography 25
John Arthur Wilson Memorial Lecture 318
Jones, Richard, Biography 224

Keller, Heinz, Biography 307
Koeppen, Robert G., Biography 425
Krishnamurthi, V. S., Biography 25

Lambskins, elastic fibers of 503
Leather
ancient 522

area yield of 140, 141, 142
bleaching of with sodium borohydride 525
chrome-retanning of 524
chrome-tanned for export from India 255
chrome-vegetable tanned 396
conditioning of 395
dangers of hydrogen sulfide in processing of 486
defects in 411
determination of fatty alkyl sulfates in 350
drying of 141
dyeing of 253, 442
effect of chrome and vegetable tanning on the volume, area, and shrinkage temperature 50
embossing of 531
finishing of 442
garment 209
glutaraldehyde tanned 349
graft polymerization of vinyl monomers onto 236
greasing of 358
hairside 520
improvement of heat stability of 395
measurement of strength of by needle penetrometer 448
microclimate in shoes made of 293
moisture content of 395
non-rewet dry cleanable 102
physical properties of 140, 395
physical testing of 181, 183
pigskin 215, 352
preparation of from hides of artificially nourished calves 138
pretreatment of effluent from production of side 152
protective garments from 395
red discoloration of 348
scrap, removal of chrome from 173
shrinkage temperature of 255, 353
soft 211, 253
softening treatment for 192
softie side 205
sole 520
splitting of 443
stretch behavior of 351
tensile properties of 140, 534

testing of ... 140
treatment of for soil repellancy ... 532
vacuum drying of ... 346
water in ... 141
waterproofing of ... 98
water vapor storage ability of ... 350
welting ... 396
wet/dry differential studies of tensile load of ... 534
Leather defects ... 348
Leather industry in India ... 254
Leather industry, technology in ... 349
Leather substitutes .. 184, 185, 186, 187, 190, 353, 354, 355, 356, 525, 530
microclimate in shoes made of ... 293
polyurethane ... 527, 529
stretch behavior of ... 351
suede ... 526
water absorbent ... 529
water vapor storage ability of ... 350
Lewis, S. N., Biography ... 133
Liming
effect of on the hair root sheath ... 48
of raw hide ... 50
Liritan tanning system ... 336, 551

Maire, Max S., Biography ... 93, 513
Mauderer, V., Biography ... 308
Mellon, E. F., Biography ... 25
Metzger, V., Biography ... 475
Mink skins ... 98
Mowafy, M. A., Biography ... 93
Mucopolysaccharides ... 521
Müller-Limmroth, W., Biography ... 308

Naghski, J., Biography ... 25, 425
Nappa leather ... 182
Needle penetrometer ... 448
Notes to contributors ... 2

Offal
charcoal from ... 518
removal of chrome from ... 173

OKAMURA, H., Biography 169
Organo-silicon compounds for waterproofing 98

PADMINI, K., Biography 25
PALM, W., Biography 475
PANZER, SIGMUND, Biography 225
Parchment 522
PARTHASARATHY, N., Biography 378
Pelts
dyeing of 97
effect of γ-irradiation on 98
Perborate, effect of on collagen 288
Physical testing 181
Pickle replacement by dicyanamide resins 486
PIERCE, R. F., Biography 169
Pigskin
enzymatic collagen damage during storage and beamhouse work 444
hair growth in 64, 71
histology of 64, 71
manufacture of fancy leather from 352
processing of 54
production of leather from 215
PRENTISS, WILLIAM C., Biography 93, 133
Proteins
determination of amino nitrogen of 51

RANGANATHAN, T. S., Biography 25
Recycling of chrome liquors 161
Reptile skins 397
Retanning 446
RETZSCH, C. E., Biography 133
RITTER, JEROME, Biography 225
ROBERTS, IRWIN H., Biography 425

SALAMATOV, ANDREW, Obituary 515
Salt
curing with used 41
purification of for curing 36
Salt stains 49, 139
Salt stippen, identification of 49, 139
SCHERR, H., Biography 475

Scrap, removal of chrome from 173
Shearlings, tanning of 138
Sheepskin 411
changes in during enzyme treatment 51
dyeing of 96
tanning of with wool on 138
waterproofing of 96
Shellac 348
SHIRAI, K., Biography 169
SHIVAS, S. A. J., Biography 169
Shoe insole 186
Shoes
maximum pressure on the foot from 351
microclimate in leather and synthetic 293
stretch behavior of materials for 351
Shrinkage temperature 255, 353
influence of tanning on 50
SHUTTLEWORTH, STANLEY G., Biography 308, 344, 561
SLABBERT, N. P., Biography 561
SLOMSKI, CAROL, Biography 309
SMALL, DAVID R., Biography 225
Solvent hide processing 233, 488
Splits 197
STEIN, ERNEST H., Obituary 477
Stippen
identification of 49, 139
SŰDEMIR, SŰLEYMAN, Biography 561
Sulfite as a preservative 400
SWAMY, M. P., Biography 475
Syntans 188
Synthetic leathers. *See* Leather substitutes.
Symposium
on fatliquoring 258
on preparation of hides and skins at the source 195
on soft leathers 205

TANCOUS, JEAN J., Biography 225, 561
Tannery process modification to reduce wastes 551
Tannery safety 521
Tanning
after a pre-tanning process 532
by the graft poly-retan process 235
with a multivalent metal and an organic compound 353

with arsenic trioxide 188
with chrome 190
with chrome and organic compounds 191
with chrome-zirconium 486
with glutaraldehyde 100, 121, 349
with iron 184
with mixtures of quebracho and syntan 100
with sulfited quebracho 100
with sweetened chestnut extract 182
with titanium 97
with urea-formaldehyde resins 520
with vegetable tannins 254
with zirconium 97
Tanning industry 566
energy parameters of 82
health problems in 138
history of 182
Tannins 255
drying of 486
from babul bark 396
from Himalayan spruce 254
from kail (blue pine) 256
from Tamil Nadu 347
from wattle extract and tamarind seed 254
sweetened chestnut 182
viscosity of 346
TAYLOR, HAROLD H., Biography 425
TAYLOR, MARYANN M., Biography 378
Tensile load 534
Thermography 96
Theses, Technical Univ., GOTTWALDOV, Czechoslovakia 565
THORSTENSEN, T. C., Biography 169
Titanium, tanning with 97
Tricresyl phosphate 182

Unhairing 532
alkaline 360
mechanism of 360

Vacuum drying 246
VAN VLIMMEREN, P. J., Biography 344
Vinyl monomers 236

WARD, G. J., Biography 344
Waste utilization 228
by preparation of casing 358
Waste water 276, 565, 566
acclimitization of activated sludge for treatment of 6
aeration of 140
bio-oxidation of unhairing effluents 230
BOD, COD, and TOC values of 181
chrome reduction in 228
effect of chromium(III) on biological treatment of 444
electrolytic purification of 181
flocculation of suspended solids in 229
from lime-sulfide unhairing 6
influence of liming and tanning on 443
lime-sulfide separation from 229
management of by modification of the beamhouse 318
pretreatment of 152
recovery of chrome from 182
recovery of sulfide from 230
recycling of chrome liquors 161
reduction of by Liritan process 336
reduction of by process modification 231
reduction of chrome in 351
reduction of pollution in 232
removal of pulped hair from 144
Water vapor permeability 97
WELDON, ROBERT G., Obituary 172
Wet/dry differential studies of tensile load 534
Wet finishing by a flow-through process 50
WINDUS, W. W., Biography 378

Zirconium, tanning with 97

ARTICLES FROM OTHER PUBLICATIONS

(Page numbers denote abstracts)

Asociacion Quimica Espanola de la Industria Del Cuero 100
Biochem. Biophys. Res. Communications 99, 142, 180
Biochem. J. 98, 180
Chemia Analityczna 96
Cuoio, pelli, mat. concianti 181, 182, 183
Das Leder 48, 49, 349, 350, 351, 397, 398, 442, 444, 445, 446
J. Biol. Chem. 99
J. Indian Leather Technologists Assocn. 255, 346, 348, 349
J. Soc. Leather Technologists and Chemists 140
Kozarstvi 521, 565, 566
Kozh. Obuv. Prom. 50, 51, 96, 97, 98, 486, 520, 521, 565
Leather Science 396
Leder und Häutemarkt 50, 352, 395, 442, 443, 446, 486
Mol. Biol. 51, 52
Nature 142
Post. Biochem. 52
Prezegl. Sk. 98
Revista de la Asociacion Argentina de los Quimicos y Tecnicos de la Industria del Cuero 100
Revista de la Federacion Mexicana de Quimicos y Tecnicos del Cuero 99
Rev. Tech. Inds. Cuir 100, 138, 139, 140
Science 142
Technicuir 140, 141, 142
The Tanner 253, 254, 255, 256, 346, 347, 348